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REPORT OF TWO CASES OF CEREBRAL TUMORS MISTAKEN FOR PARESIS, WITH AUTOPSY.

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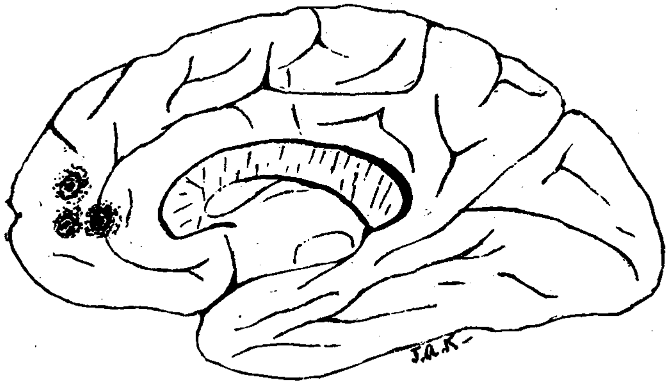
CASE I.—Syphilitic gummata of the brain. Name R. P.; nativity, Italy; 49 years old; married and a shoemaker by trade. His habits and the cause of his attack were unknown. When admitted to the asylum, December 12, 1889, he was dull and stupid, simple and childish. He did not appreciate his condition or surroundings and could give no satisfactory account of himself. A physical examination made upon his admission proved to be entirely negative. The patient continued quiet and depressed, showing no well marked delusions, but complained of considerable pain in the head over the frontal region, which persisted more or less throughout the remainder of his illness, death occurring January 25, 1894, while in a convulsion.

During the entire illness, the patient was depressed, except on two occasions, when he expressed himself as feeling "all right" and "good." Three years after admission, his condition was one of extreme dementia. His gait was ataxic and he could pronounce simple words only with great difficulty. The tongue, lips, facial muscles and fingers displayed marked muscular tremor. The knee-jerk was very much exaggerated, but was equal on both sides. Three months before death, he had several convulsions each lasting from five to ten minutes and recurring at intervals of a few hours. It is worthy of note that the diagnosis of paresis was made without the presence of delusions of wealth and well-being and was based upon the physical signs, convulsions and facial appearance.

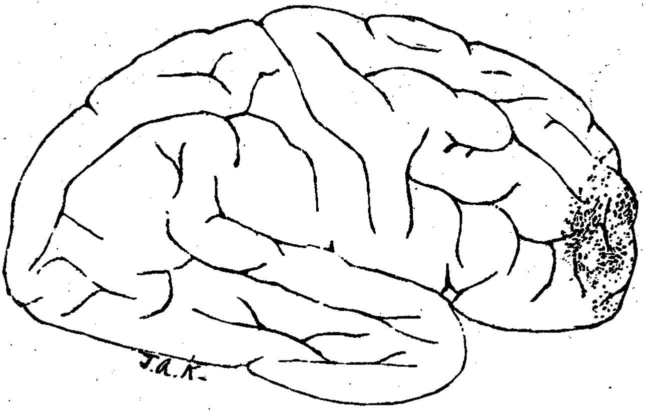
Although it is an accepted fact that there are cases of paresis in which delusions of grandeur are absent either at the beginning or later in the disease, nevertheless, I think such cases are sufficiently rare, to cause one to hesitate before committing himself to a diagnosis of paralytic dementia. It hardly needs to be said that these cases were diagnosed by men accustomed to seeing yearly many cases of general paresis in its different stages and various manifestations, and the mistake in diagnosis was undoubtedly due to the non-recognition of the relation of the symptoms of grandeur to that of general paresis.



Case I.—Fig. 1. Diagramatic representation of the brain, showing relative position of gummata in anterior lobe of right hemisphere which are located in white matter and do not appear on inner surface of the brain, as shown in the diagram.

An autopsy on the brain revealed three large syphilitic gummata in the centre of the right anterior cerebral lobe, which, instead of beginning on the surface of the brain or in the membranes, as is commonly the case, had their seat in the white substance, and by a gradually extending inflammatory process involved to a slight extent the pia and dura. These gummatous deposits, averaging one-half inch to one inch in diameter, had begun to soften and break down centrally. The pia showed chronic inflammation with some thickening which was especially prominent along the course of the vessels about the Rolandic fissure. Carefully prepared sections by the fresh method were examined by the microscope. There were but few changes in the walls of the capillaries. In places they were surrounded by infiltrated leucocytes, but these did not extend to the adjacent brain cells. No erosion of the dendrons or turbidity of cell element were noticeable. In fact, the motor and the giant ganglion cells of the third and fourth layers respectively, seemed to have suffered, but little, if at all.

This case lends additional weight to the fact that syphilis is present in many cases of insanity where a history is or cannot be obtained to that effect, and again where no signs are apparently present indicative of its ravages. While it may be argued with considerable plausibility that the presence of the syphilitic gummata in this case, does not militate against the concomitance of paresis, yet I am inclined to think, that all the symptoms given may be accounted for by the presence of the gummata alone. But if we are to tabulate syphilis of the brain, in its many forms, in the same category and speak of it as identical with paresis, as a few writers on the subject are doing at the present day, then, the two diseases might be associated in this case. As this view of the subject does not seem to be fully borne out by clinical facts and pathological observations, I would call the case one of syphilis and leave the burden of proof to those desirous of correlating the two.



CASE I —FIG. 2. The dotting in diagram shows the area of brain surface involved by the extension of the tumors to the cortex. The pia and dura were adherent over same area.

The duration of illness in this case was about five years. It is quite improbable that at first he was suffering from the tumors of the brain as their duration is generally about two to three years. Probably the mental condition on admission could be accounted for by the syphilitic meningitis which preceded and accompanied the development of the gummata.

The clinical history of Case 2, multiple sarcoma of the dura, was as follows: J. B., admitted to the asylum June 10, 1893; 34 years old; German; married and a moderate drinker all his life. There were no hereditary tendencies found in the family. The patient had been sick for seven months previous to admission and had been out of employment for two or three months prior to the illness, and, in consequence, had attempted suicide by use of the razor. He was confused in conversation and irrational in his behavior. Throughout his entire illness, he was intensely depressed and when questioned, replied in monosyllables. His articulation was slow and hesitating, and at times he broke down entirely, becoming emotional and unable to answer questions. There was muscular tremor in tongue, facial muscles and

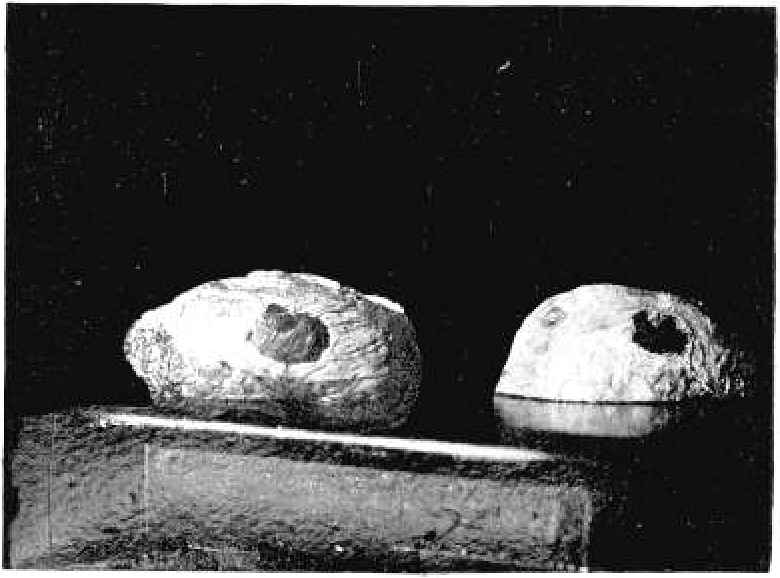


FIG. 3. Tumors and outer aspect of calvarium.

hands. The knee-jerk was increased equally on both sides to an arc of about sixty-five degrees. There was no loss of power in the upper extremities, but the fingers of both hands were tremulous. The pupils were unequal in size (record does not say which was the larger), but were regular in outline and responded both to light and accommodation, the response being slow but decided. He failed rapidly in physical and mental health. The circulation was especially enfeebled. The pulse was slow and almost imperceptible in the left radial artery, while the right was much stronger. No satisfactory explanation has been offered for this inequality of arterial tension, nor did autopsy throw any light upon the subject, although diligently searched for.

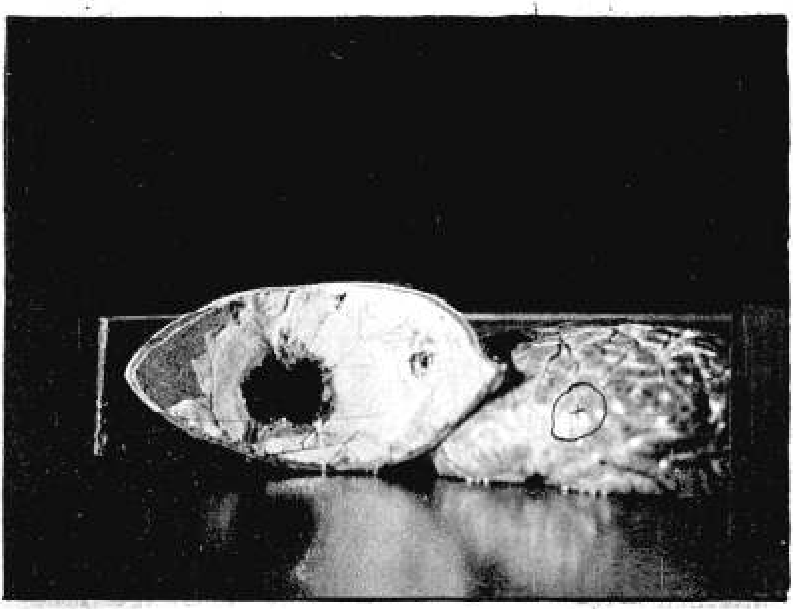


FIG. 4. Inner aspect of calvarium, showing the destruction of bone by the tumors. X, cortical area directly under the largest tumor.

Patient complained of frequent headaches, or rather "heaviness of the head," with attacks of vertigo. About once in three weeks, he had mild convulsive seizures which lasted intermittingly for half an hour. These were followed by yet more depression, the patient refusing absolutely to move. These seizures were not epileptiform as they had no aura, biting of the tongue, frothing at the mouth or loss of consciousness. Neither were they apoplectiform as consciousness was not lost, the face did not become congested nor did paralysis occur during or after these attacks. On account of the retention of consciousness, the character of the muscular movement in the seizures, and the recurrence of the attacks in such short periods of time, it was thought that these various phenomena pointed to paretic convulsions and diagnosis of paresis was held until autopsy. The urine was carefully examined during one of these attacks, but with negative results. (Sp. gr. 1,004). These convulsions were general and bilateral and gradually increased in frequency and severity until the 22d of last February, when he died in one of the seizures. The duration of the disease was about one year and six months.

Autopsy revealed multiple sarcomata of the dura, associated with calcific and bony tissue, the presence of which in the sarcoma might render the condition more accurately described if they were called osteo-sarcoma, but as the association of calcification and bony tissue was present in only one of the tumors, it was thought that the diagnosis given was more correct. The presence of the bony tissue seemed to be due to gradual extension by pressure and inflammatory process of the tumor into the wall of the calvarium. There were four of these tumors situated as follows: The largest, which contained the bony and calcific tissue was about the size of a large hen's egg, and was located on the right side, just over the descending parietal region. It was firmly attached to the dura and had probably slowly increased in size, giving rise to an increasing pressure over the motor region, thus accounting for the seizures. Why it did not in the beginning give rise to local spasm of muscle as pressure over this area should do, I cannot say. This tumor had made its way entirely through the calvarium, but did not bulge beyond the cranial surface. It had been so firmly infiltrated that there was no perceptible difference to the touch in moving the finger from the tumor to the adjoining calvarium. These two facts must have accounted in a measure for the non-recognition of the sarcoma before death.

The other three tumors were small, ranging in size from a pea to a hickory nut, being soft and very vascular. They were grouped closely together over the superior parietal region. But on removal of the calvarium, only one of these three remained attached to the dura, the other two coming away with the forcible removal of the skull cap. The position of the largest tumor was found to be directly over and surrounding the middle meningeal artery. The other three were on the posterior branch of the same artery which gave rise to the idea that the primary cell element of the latter group had been swept there by the circulation from the large saçoma. None of the tumors in this case involved the pia or even the inner surface of the dura. The large one had exerted considerable pressure on the underlying brain tissue, sufficient to flatten the convolutions in that region and give rise to the motor symptoms of convulsions. Microscopical examination by the fresh method of the brain cortex in this region, revealed but very little. The blood vessels showed the most change; their coats were infiltrated by some new cell growth, but the growth did not extend beyond the adventitia. A few of the ganglion cells of the third and fourth layers were thought to show vacuolation, but as only a few sections presented this appearance, it was impossible to say whether it was due to the disease or an artefact. In the accompanying photographs of this case, which were kindly furnished me by Dr. Pettit, the tumors, inner and outer aspect of the calvarium are shown. Fig. 3 shows the small tumors near the longitudinal fissure over the superior parietal lobule. On microscopical examination, Dr. Van Gieson concurred with the above statements of the pathological conditions present. It is a matter of regret that a more careful and thorough observation was not directed to these cases so that the records might have been more complete and definite.

However, it seems reasonable that these two cases of cerebral tumors mistaken for paresis, although insufficient in number to give them any great statistical value, should, nevertheless deter us from making the diagnosis of the latter disease in the absence of many of the important symptoms, such an grandiose ideas and feelings of well-being.

Especially should this suggestion have weight as there has been a constantly growing tendency among alienists and neurologists, to diagnose paresis in many cases of mental diseases in which the evidence only a few years ago was thought to be wholly insufficient.